Phase	Type
X Initial Site Investigation ☐ Corrective Action Feasibility Investigation ☐ Corrective Action Plan ☐ Corrective Action Summary Report ☐ Operations and Monitoring Report	☐ Work Scope **X Technical Report** ☐ PCF Reimbursement Request ☐ General Correspondence

ADDITIONAL SITE INVESTIGATION REPORT

Coastal Station
Canal Street
Brattleboro, Vermont
DEC Site #95-1913

Prepared For:

Mr. Lee Merrill
Barrows Coal Company
35 Main Street
Brattleboro, VT 05301

Prepared By:

ERD Environmental, Inc.
205 Main Street
Brattleboro, VT 05301
800-359-3677 phone; 802-254-7630 fax
Contact: Paul D.G. Miller
Reviewed by: David Gagnon

August 16, 1996

ERD Environmental, Inc. Job #950603

(1913)

ERD Environmental, Inc.
An ERD Waste Corp. Company
205 Main Street • P.O. Box 1760 • Brattleboro, VT 05302-1760 • 802.254.3677 • 800.359.3677 • Fax 802.254.7630 • www.erdwaste.com

AUG 22 10 03 AM '96

WASTE MANAGEMENT
DIVISION

August 16, 1996

Mr. Richard Spiese
Sites Management Section
Vermont Department of Environmental Conservation
Hazardous Materials Management Division
103 South Main Street/West Building
Waterbury, Vermont 05671-0404

RE: Coastal Station, 206 Canal Street, Brattleboro, Vermont
UST Facility ID #414; DEC Site #95-1913

Dear Mr. Spiese:

Enclosed please find the Additional Site Investigation Report for the above-referenced site. If you have any questions or require further information, please call me at 254-3677.

Sincerely,
ERD Environmental, Inc.

Paul D.G. Miller
Hydrogeologist

Enclosure

cc: Lee Merrill, Barrows Coal Company

\950603\spiese4.ltr

EXECUTIVE SUMMARY

In a letter dated June 12, 1996, the Sites Management Section (SMS) of the Vermont Department of Environmental Conservation (VT DEC) concurred with the recommendations put forth in the Initial Site Investigation report completed on May 13, 1996 by ERD Environmental, Inc. (formerly ENSA Environmental, Inc.) for the Coastal Station located on Canal Street in Brattleboro, Vermont. The following work was recommended: conduct semi-annual sampling and analysis of groundwater monitoring wells on the site, install an upgradient monitoring well, and monitor the stock-piled soil on a semi-annual basis.

One soil boring, CS-5, was completed as a groundwater monitoring well on the upgradient portion of the site on July 10, 1996. Headspace screening of split spoon soil samples indicated VOC contamination ranging from 1.5 to 5.3 ppm.

Laboratory analysis of groundwater samples collected from the on-site monitoring wells revealed the presence of significant contamination in well CS-1, immediately downgradient from the location of the former USTs removed in September 1995. This contamination, however, has decreased markedly since its prior sampling event on January 9, 1996. Both BTEX compounds and MTBE were less than half of their previous levels.

Based on the conclusions of the previous site investigation and the results of the current groundwater sampling round, it appears that the source of the petroleum contamination in the site groundwater may have been one or more of the removed USTs. However, 10 parts per billion of MTBE was also detected in well CS-5, adjacent to, but upgradient of the UST graves. Without additional monitoring wells on upgradient properties it is not possible to determine if the source of the MTBE is from an upgradient source or residual contamination from the former USTs, at this time.

Groundwater flow direction was determined to be to the northeast, diagonally across the subject parcel. The former UST locations are in the upgradient corner of the site. The Coastal station is served by municipal drinking water and sewer systems. No private drinking water wells are known to be located within ½ mile radius of the site.

Four soil samples were collected from the stockpiled soil at the Zaluzny gravel pit on June 24, 1996. No VOCs were detected in the samples and total petroleum hydrocarbon levels ranged between 46 and 130 ppm. The laboratory results were forwarded to the SMS on July 9, 1996 for their review.

Based on the data gathered to date, ERD recommends that all existing monitoring wells be gauged and sampled on a semi-annual basis. Review of the sequential sampling data should indicate if a contaminant plume is migrating onto the site from an upgradient source or if the contamination is originating from the location of the former USTs.

ADDITIONAL SITE INVESTIGATION REPORT
Coastal Station, Canal Street, Brattleboro, VT

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TABLES

APPENDICES

1.00 Introduction

This investigation was conducted by ERD Environmental, Inc. (formerly ENSA Environmental, Inc.) of Brattleboro, Vermont (ERD) to further define the degree and extent of soil and groundwater contamination at the Coastal station on Canal Street in Brattleboro ("the site").

2.00 Site Description

2.10 The Site and Vicinity

The Coastal station is located on a 0.74-acre parcel on the east side of Canal Street, approximately 0.32 miles northeast of interchange 1 of Interstate Route 91 in Brattleboro, Vermont. A Site Locus map of the Brattleboro, Vermont USGS Topographic Quadrangle is presented in Appendix A of this report. This map shows the site to be at an elevation of approximately 127.5 meters (418 feet) above mean sea level. Also according to this map, there is a small pond located approximately 750 feet east-southeast of the site.

The site is in a commercially developed area. Immediately to the south is a commercial building occupied by various businesses, including Audio Design Inc., Jerry's Barber & Styling, and KC Discount Antiques. Planned Parenthood is located north of the site on Canal Street. Across Canal Street, to the west and west-southwest, are the Exit 1 Pizza restaurant and a Texaco gasoline station, respectively. Behind the site, to the east-southeast, is undeveloped woodland which is planned for residential use. A Site Vicinity map, based on the Brattleboro Tax Map for the site area, is presented in Appendix A.

2.20 Site History

The subject property has been in use as a gasoline service station since about 1960. Renovations have been recently completed at the site, which now has a new convenience store, a four-bay, self-service car wash, new gasoline, fuel oil, diesel, and kerosene underground storage tanks (USTs), and four pump islands under a canopy in front of the building.

2.30 Project Background

Five USTs were removed from the site on September 26 and 27, 1995. Petroleum contaminated soil (up to 637 ppm VOCs, as detected with a PID) was encountered during the tank removal, and approximately 180 cubic yards were polyencapsulated and stockpiled, with UST Program approval, at the Zaluzny gravel pit in Brattleboro. ERD submitted tank removal forms to the Vermont Department of Environmental Conservation (VT DEC) on October 2, 1995. Notification that the site would participate in the Expressway program was submitted on December 11, 1995. After reviewing the tank removal forms, the DEC Sites Management Section (SMS) required that work be conducted to define the degree and extent of soil and groundwater contamination at the site and to identify any sensitive receptors which might be impacted by such contamination. Following the completion of this subsurface investigation, ERD recommended that additional subsurface work be completed. In a letter dated June 12, 1996, Richard Spiese of the VT DEC concurred that the following work be completed:

- Perform semi-annual sampling and analysis of groundwater from the monitoring wells on the site.
- Install and sample an upgradient monitoring well at the site.
- Monitor the 180 cubic yards of contaminated soil on a semi-annual basis.

3.00 Subsurface Explorations and Analyses

3.10 Monitoring Well Installation

In order to determine if any releases have migrated onto the site from nearby properties, one soil boring was advanced on the upgradient side of the site on July 10, 1996. A groundwater monitoring well was completed in the boring. The borings were advanced with a hollow stem auger drill rig by T&K Drilling of Troy, NH and overseen by ERD personnel. The soil boring/monitoring well construction log is presented in Appendix B of this report. The location of the monitoring well is shown on the groundwater potentiometric surface map included in Appendix C.

3.20 Field Screening of Soil Samples

During drilling, split-spoon soil samples were obtained at five-foot intervals from the borehole and field screened for Volatile Organic Compounds (VOCs) with a Thermo Environmental Instruments Model 580B Organic Vapor Meter (OVM), field calibrated to 250 parts per million (ppm) of an Isobutylene span gas. Sample headspace screening results are included in the soil boring/well construction log included in Appendix B.

Results of sample headspace screening ranged from 1.5 to 5.3 ppm. The highest reading was detected from the sample collected from the 35 to 37 foot depth range.

3.30 Collection of Groundwater Samples

On July 17, 1996, groundwater samples were collected from the five on-site monitoring wells. The samples collected from wells CS-1 and CS-5 were submitted for laboratory analysis for VOCs by EPA Method 8260. Samples collected from monitoring wells CS-2, CS-3, and CS-4 were submitted for analysis by EPA Method 8020. Samples were obtained with standard plastic disposable bailers after the removal of three well volumes of water from each well. The monitoring well samples, a trip blank, and a duplicate of well CS-1 were refrigerated and sent to Alpha Analytical Laboratories in Westborough, Massachusetts for analysis.

Positive laboratory results are presented in Table 1 along with the corresponding VT DEC Groundwater Quality Enforcement Standards. The standard cited for MTBE is the Vermont Health Advisory Level (VHAL). Complete laboratory reports are presented in Appendix D.

A summary of the results shows that contaminant levels in monitoring well CS-1 have decreased markedly since its prior sampling event on January 9, 1996. Both BTEX compounds and MTBE were less than half of their previous levels. New contaminant compounds were present in the CS-1 sample. These compounds can be expected, however, as they represent degradation compounds resulting from the original gasoline contamination. Monitoring wells CS-2, CS-3, and CS-4 did not contain any VOC contamination. Monitoring well CS-5 contained 10 ppb of MTBE.

Table 1. Contaminants detected in groundwater samples from the Canal Street Coastal station and corresponding Groundwater Quality Enforcement Standards. Concentrations in ug/L.

Date	Compound	Standard	CS-1	CS-2	CS-3	CS-4	CS-5
7/17/96	Benzene	5.0	75	ND	ND	ND	ND
	Toluene	2520	50	ND	ND	ND	ND
	Ethylbenzene	680	ND	ND	ND	ND	ND
	Xylenes	400	36	ND	ND	ND	ND
	MTBE	40	1300	ND	ND	ND	10
	1,3,5-Trimethylbenzene	NE	51	NT	NT	NT	ND
	1,2,4-Trimethylbenzene	NE	170	NT	NT	NT	ND
	n-Butylbenzene	NE	29	NT	NT	NT	ND
	sec-Butlylbenzene	NE	16	NT	NT	NT	ND
	Isopropylbenzene	NE	12	NT	NT	NT	ND
	p-Isopropyltoluene	NE	11	NT	NT	NT	ND
	Naphthalene	NE	53	NT	NT	NT	ND
	Total BTEX	NE	161	ND	ND	ND	ND
1/9/96	Benzene	5.0	120	ND	ND	ND	Installed 7/10/96
	Toluene	2420	94	ND	ND	ND	
	Ethylbenzene	680	20	ND	ND	ND	
	Xylenes	400	120	ND	ND	ND	
	MTBE	40	3200	ND	ND	ND	
	1,3,5-Trimethylbenzene	NE	40	ND	ND	ND	
	1,2,4-Trimethylbenzene	NE	120	ND	ND	ND	
	TOTAL BTEX	NE	354	ND	ND	ND	
	Heavy Ends (Method 8015M)	NE	69,000	NT	NT	NT	

ND = Not detected above detection limit of laboratory method. NT = Not tested
NE = None established

4.00 Site Hydrogeology

4.10 Groundwater Levels and Flow Direction

On July 17, 1996, the groundwater levels of the site monitoring wells were gauged. Depth to groundwater was measured at each well using a Solinst Model 101 electronic water level indicator accurate to 0.01 foot. Groundwater potentiometric data are presented in Table 2. Groundwater elevations ranged from 45.08 feet in CS-4 to 64.57 feet in CS-5, representing 19.49 feet of elevation gain across the site. Groundwater flow direction was determined to be generally to the east-northeast, consistent with the previous site investigation completed in May 1996. A groundwater potentiometric map constructed from the July 17, 1996 data is presented in Appendix C.

Table 2. Groundwater potentiometric data. Elevations in feet from an arbitrary datum.

Date		CS-1	CS-2	CS-3	CS-4	CS-5
	Elevation of Top of PVC	97.78	98.60	97.73	98.44	96.83
7/17/96	Depth to groundwater	33.43	41.91	42.82	53.36	32.26
	Groundwater elevation	64.35	56.69	54.91	45.08	64.57
1/9/96	Depth to groundwater	33.35	41.50	42.18	52.97	Installed
	Groundwater elevation	64.43	57.10	55.55	45.47	7/10/96

The hydraulic gradient between wells CS-4 and CS-5 was calculated to be approximately 0.09 cm/cm. Based on an hydraulic conductivity value of 10^{-2} cm/sec and an effective porosity estimate of 35% for sand, groundwater velocity was determined using the following variation of Darcy's Equation:

GW_{vel} = Hydraulic Gradient x Hydraulic Conductivity/Effective Porosity
GW_{vel} = 0.09 cm/cm x 0.01 cm/sec / 0.35
GW_{vel} = 2.57×10^{-3} cm/sec
GW_{vel} = 222.2 cm/day (87.48 in/day or 7.29 ft/day)

5.00 Stockpiled Soil Screening

On June 16, 1996, the 180 cubic yards of soil stockpiled at the Zaluzny gravel pit was field screened according to VT DEC headspace analysis protocol for VOCs with an OVM, field calibrated to 250 parts per million (ppm) of an Isobutylene span gas. A total of 32 excavations were made within the stockpiled soil. Each excavation was made to the base of the soil pile. No VOC were detected in any of the samples.

On June 24, 1996, four soil samples were collected from the 180 cubic yards of stockpiled soil. No VOCs were detected in the samples and total petroleum hydrocarbon levels ranged between 46 and 130 ppm. The laboratory results were forwarded to the SMS on July 9, 1996 for their review.

6.00 Initial Risk Evaluation

6.10 Potential Sources

Based on the conclusions of the previous site investigation and the results of the July 17, 1996 groundwater sampling, it appears that the source of the petroleum contamination in the site groundwater may have been one or more of the removed USTs. However, ten parts per billion (ppb) of MTBE was also detected in well CS-5, adjacent to, but upgradient of the UST graves. MTBE is extremely soluble and is frequently at the leading edge of a gasoline contaminant plume. Without additional monitoring wells on upgradient properties it is not possible to determine, at this time, if the source of the MTBE is an upgradient property or residual contamination from the former USTs and detected in well CS-5 due to its proximity to the UST graves.

6.20 Potential Receptors

The site and vicinity are served by municipal drinking water and sewer systems, which greatly limits the likelihood of human contact with or consumption of site groundwater.

According to available Basic Well Data for the Town of Brattleboro, there are no drinking water wells located within a half-mile radius of the site. The nearest human receptors would be the occupants of the site and adjacent properties. The Oak Grove School is located approximately 1,780 feet east of the site. The nearest sensitive environmental receptor appears to be the small pond located about 750 feet east-southeast of the site.

6.30 Contaminant Distribution

Total BTEX and MTBE isoconcentration lines, based on laboratory data from the July 17, 1996 groundwater sampling event, are shown on the contaminant Isoconcentration Map in Appendix E. Contamination was detected in groundwater from wells CS-1 and CS-5, which are located adjacent to the UST graves.

Benzene is the only compound which was detected at a concentration in excess of its VT DEC Groundwater Quality Enforcement Standard, which is 5.0 ug/L. MTBE was detected at a concentration greater than its VT Health Advisory Level of 40.0 ug/L.

7.00 Conclusions and Recommendations

Conclusions and recommendations presented in this report are based solely on information obtained during the course of this investigation. Changes in site conditions, or information not available for review at the time of this investigation, may necessitate an update of these conclusions and recommendations.

7.10 Conclusions

- A petroleum release is evident at the site. Gasoline-related contaminants were again detected in a groundwater sample collected from monitoring well CS-1 located immediately downgradient from the former gasoline UST location.

- Contaminant levels in monitoring well CS-1 have decreased markedly since its prior sampling event on January 9, 1996. Both BTEX compounds and MTBE were less than half of their previous levels. New contaminant compounds were present in the CS-1 sample. These compounds can be expected, however, as they represent degradation compounds resulting from the original gasoline contamination.

- An MTBE concentration of 10 ppb was detected in the groundwater sample collected from the newly installed upgradient monitoring well, CS-5. Since no groundwater monitoring wells have been installed upgradient of well CS-5, it is not possible to determine at this time, if the MTBE is the leading edge of a gasoline contaminant plume originating at an upgradient source or residual contamination from the adjacent UST graves.

- Benzene was the only compound detected in the site groundwater at a concentration greater than its VT DEC Groundwater Quality Enforcement Standard, which is 5.0 ug/L.

- The site and vicinity are served by municipal water and sewer systems. The nearest human receptors would be occupants of the site. No drinking water wells are known to be located within a half-mile of the site. The nearest environmental receptor appears to be a small pond located approximately 750 feet east of the site.

7.20 Recommendations

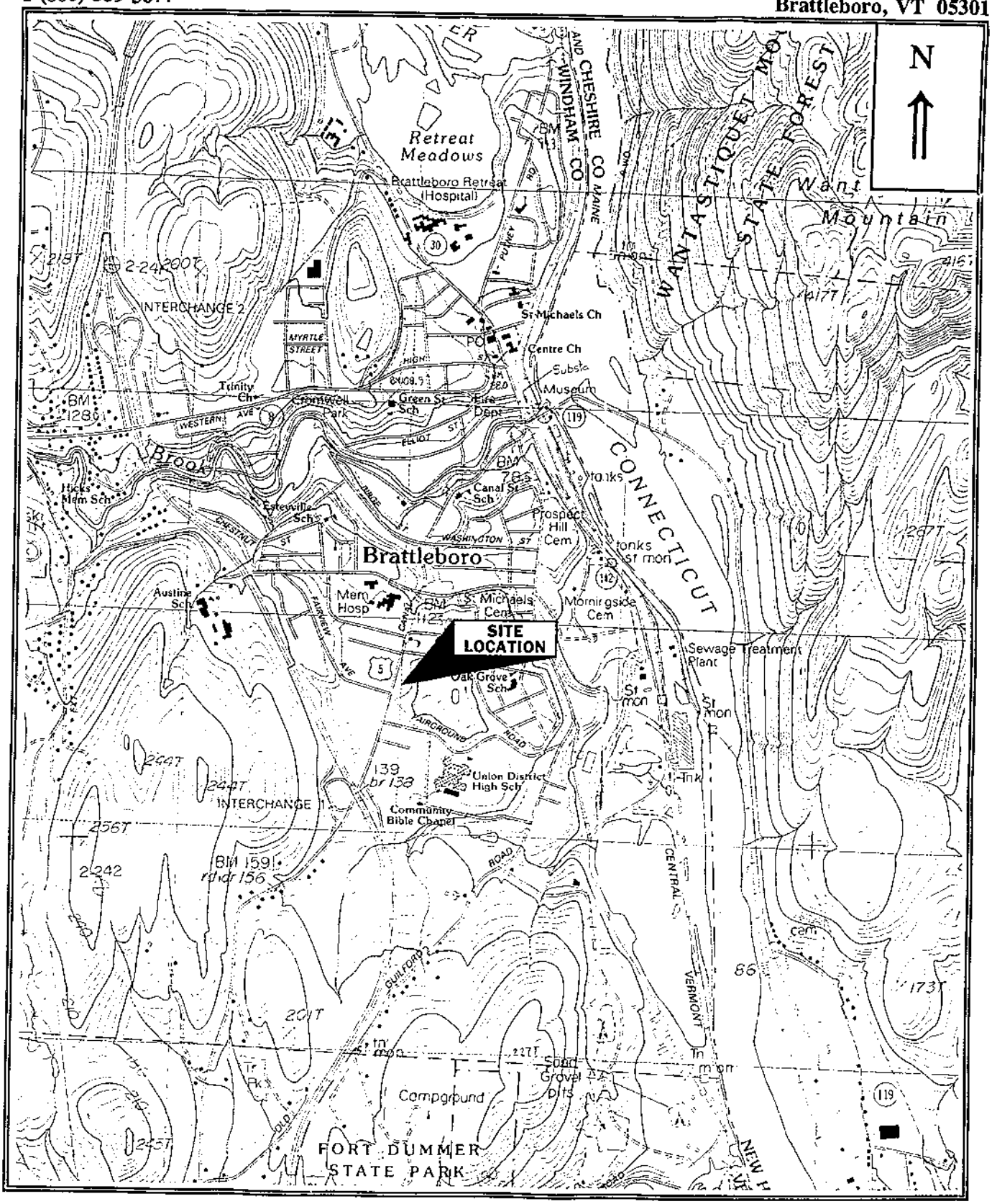
ENSA Environmental, Inc. recommends that contaminant levels in groundwater from CS-1 be monitored (EPA Method 8260) on a semi-annual basis until all compounds tested for are beneath applicable Groundwater Enforcement Standards for two consecutive sampling events. Review of the sampling data should indicate if a contaminant plume is migrating onto the site from an upgradient source. The other three monitoring wells should be gauged and sampled (EPA Method 8020) on a semi-annual basis as well, to provide a means of detecting contaminant migration, if any, toward those points.

Appendix A

Site Locus and Site Vicinity Maps

ENSA ENVIRONMENTA. NC.
1-(800)-359-3677

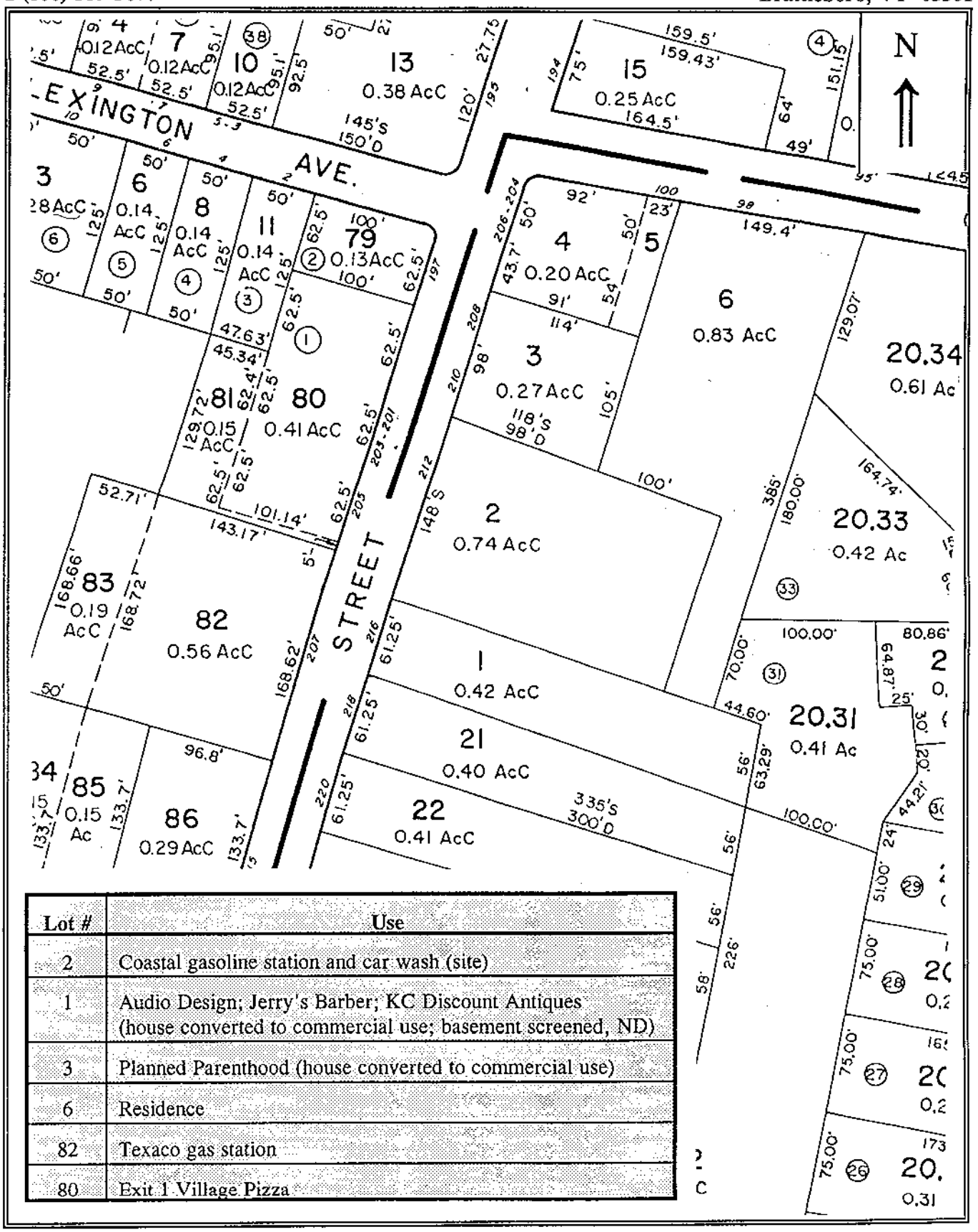
205 Main Street
Brattleboro, VT 05301



Site Locus Scale 1:25,000, metric	USGS Topographic Map Brattleboro, VT Quadrangle Provisional Edition 1984	Coastal station Canal Street Brattleboro, VT

ENSA ENVIRONMENTAL, INC.
1-(800)-359-3677

205 Main Street
Brattleboro, VT 05301



Lot #	Use
2	Coastal gasoline station and car wash (site)
1	Audio Design; Jerry's Barber; KC Discount Antiques (house converted to commercial use; basement screened, ND)
3	Planned Parenthood (house converted to commercial use)
6	Residence
82	Texaco gas station
80	Exit 1 Village Pizza

Approx. Scale: 1" = 100'	Town of Brattleboro Tax Map	Lot 2 = 212 Canal Street

Appendix B

Soil Boring/Monitoring Well Construction Logs

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL CONSTRUCTION LOG

Project #:950603 Date: 07/10/96
Project Name: Canal Street Coastal station
Location: Canal Street, Brattleboro
Driller: T&K Drilling
ENSA Personnel: STG
Boring/Well #: CS-5 Sheet 1 of 2

SITE LOCUS

Depth (feet)	Blow Counts 0-6	6-12	12-18	18-24	Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
0-1	Gravel	under	pave-	ment			Dark brown medium to light sand. Some coarse to medium gravel. (moist) (Heavy thunderstorms last night)	
1-3	13	10	9	6	20"	1.5		
5-7	1	2	3	4	20"	3.0	Olive gray silt. Slightly moist.	
10-12	5	9	10	11	22"	1.8	Well mottled medium to fine sand. Trace of silt. Dry.	
15-17	14	44	37	28	10"	3.1	Dark brown medium to light sand and coarse to medium gravel. Some fine sand. Dry. Some cobbles.	
20-22	31	38	60		6"	4.5	Dark brown medium to coarse sand and medium to coarse gravel. Dry. Some cobbles.	
			Refusal	@	21'4"			
			Rocky	layer -	was			
			able to	auger	through			

Drilling Method: HSA
Total Well Depth: 38'
Groundwater Depth: 32'
PVC Elevation:

Screen Diameter: 2" Length: 10'
Riser Diameter: 2" Length: 28'
Slot Size: .10
Ground Elevation:

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

ENSA ENVIRONMENTAL, INC.
SOIL BORING/MONITORING WELL CONSTRUCTION LOG

Project #:950603 Date: 07/10/96
Project Name: Canal Street Coastal station
Location: Canal Street, Brattleboro
Driller: T&K Drilling
ENSA Personnel: STG
Boring/Well #: CS-5 Sheet 2 of 2

SITE LOCUS

Depth (feet)	Blow Counts 0-6	6-12	12-18	18-24	Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
25-27	13	28	35	36	20	3.0	Dark brown coarse to fine sand. Coarse to fine gravel, cobbles. Dry.	
30-32	8	12	24	20	20	3.8	Well mottled coarse to fine sand. Some coarse to fine gravel. Some cobbles. Dry.	
32-34	18	28	39	32	18	2.6	Dark brown coarse to fine sand,some silt. Coarse to fine gravel, flakes of shale. Wet.	
35-37	3	8	18	24	16	5.3	Dark brown coarse to fine sand. Trace of fine gravel. Wet.	
38-40	1	10	25	60*	22	3.3	Dark brown coarse to fine sand. Wet.	
			*	Refusal				

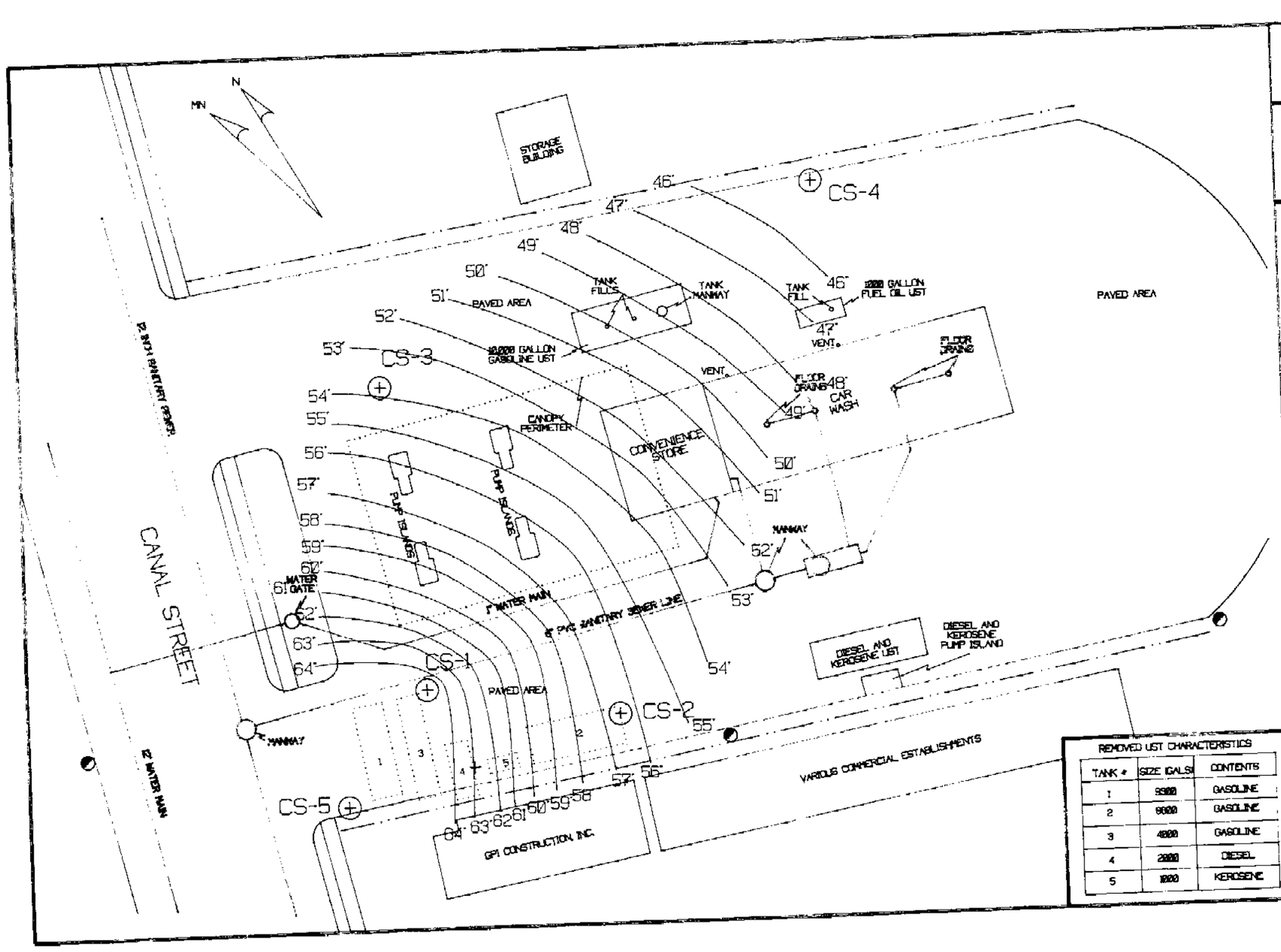
Drilling Method: HSA
Total Well Depth: 38'
Groundwater Depth: 32'
PVC Elevation:

Screen Diameter: 2" Length: 10'
Riser Diameter: 2" Length: 28'
Slot Size: .10
Ground Elevation:

Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates nondetectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

Appendix C

Groundwater Potentiometric Map



REMOVED UST CHARACTERISTICS

TANK #	SIZE (GALS)	CONTENTS
1	5000	GASOLINE
2	8000	GASOLINE
3	4000	GASOLINE
4	2000	DIESEL
5	1000	KEROSENE

GROUNDWATER POTENTIOMETRIC MAP FOR 07/17/96

COASTAL STATION AND CARWASH
CANAL STREET
BRATTLEBORO, VERMONT

LEGEND

- CS-1 MONITORING WELL
- 50' GROUNDWATER CONTOUR (FEET)
- UTILITY POLE
- OVERHEAD UTILITY LINES
- PROPERTY LINE

MONITORING WELL GROUNDWATER ELEVATIONS (FEET)

CS-1	64.35
CS-2	56.69
CS-3	54.91
CS-4	45.08
CS-5	64.57

SCALE 1 : 360

0 30 60 FEET

Drawn By: S. Geffney 08/02/96
Revised By: N. Juaire 08/20/96

\950603G796

PREPARED BY:
ERD ENVIRONMENTAL, INC.
P.O. BOX 1760, 205 MAIN STREET
BRATTLEBORO, VERMONT 05302

Appendix D

Laboratory Results

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: ENSA Environmental, Inc.
Address: 205 Main Street; 3rd Floor
Brattleboro, VT 05301
Attn: P. Miller
Project Number: 950603
Site: Canal Street Coastal

Laboratory Job Number: L9604913
Invoice Number: 85171
Date Received: 17-JUL-96
Date Reported: 24-JUL-96
Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9604913-01	CS1-71796-950603	
L9604913-02	CS2-71796-950603	
L9604913-03	CS3-71796-950603	
L9604913-04	CS5-71796-950603	
L9604913-05	CS02-71796-950603	
L9604913-06	CS01-71796-950603	

Authorized by:

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-01
CS1-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS				1	8260		22-Jul	DB
Methylene chloride	ND	ug/l	50.					
1,1-Dichloroethane	ND	ug/l	15.					
Chloroform	ND	ug/l	15.					
Carbon tetrachloride	ND	ug/l	10.					
1,2-Dichloropropane	ND	ug/l	35.					
Dibromochloromethane	ND	ug/l	10.					
1,1,2-Trichloroethane	ND	ug/l	15.					
2-Chloroethylvinyl ether	ND	ug/l	100					
Tetrachloroethene	ND	ug/l	15.					
Chlorobenzene	ND	ug/l	35.					
Trichlorofluoromethane	ND	ug/l	50.					
1,2-Dichloroethane	ND	ug/l	15.					
1,1,1-Trichloroethane	ND	ug/l	10.					
Bromodichloromethane	ND	ug/l	10.					
trans-1,3-Dichloropropene	ND	ug/l	15.					
cis-1,3-Dichloropropene	ND	ug/l	10.					
Bromoform	ND	ug/l	10.					
1,1,2,2-Tetrachloroethane	ND	ug/l	10.					
Benzene	75.	ug/l	10.					
Toluene	50.	ug/l	15.					
Ethylbenzene	ND	ug/l	10.					
Chloromethane	ND	ug/l	100					
Bromomethane	ND	ug/l	20.					
Vinyl chloride	ND	ug/l	20.					
Chloroethane	ND	ug/l	20.					
1,1-Dichloroethene	ND	ug/l	10.					
trans-1,2-Dichloroethene	ND	ug/l	15.					
Trichloroethene	ND	ug/l	10.					
1,2-Dichlorobenzene	ND	ug/l	100					
1,3-Dichlorobenzene	ND	ug/l	100					
1,4-Dichlorobenzene	ND	ug/l	100					
Methyl tert butyl ether	1300	ug/l	100					
Xylenes	36.	ug/l	10.					
cis-1,2-Dichloroethene	ND	ug/l	10.					
Dibromomethane	ND	ug/l	100					
1,4-Dichlorobutane	ND	ug/l	100					
Iodomethane	ND	ug/l	100					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

Laboratory Sample Number: L9604913-01
CS1-71796-950603

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260		22-Jul	DB
1,2,3-Trichloropropane	ND	ug/l	100					
Styrene	ND	ug/l	10.					
Dichlorodifluoromethane	ND	ug/l	100					
Acetone	ND	ug/l	100					
Carbon Disulfide	ND	ug/l	100					
2-Butanone	ND	ug/l	45.					
Vinyl Acetate	ND	ug/l	100					
4-Methyl-2-pentanone	ND	ug/l	100					
2-Hexanone	ND	ug/l	100					
Ethyl methacrylate	ND	ug/l	100					
Acrolein	ND	ug/l	250					
Acrylonitrile	ND	ug/l	100					
Bromochloromethane	ND	ug/l	10.					
2,2-Dichloropropane	ND	ug/l	10.					
1,2-Dibromoethane	ND	ug/l	10.					
1,3-Dichloropropane	ND	ug/l	10.					
1,1,1,2-Tetrachloroethane	ND	ug/l	10.					
Bromobenzene	ND	ug/l	10.					
n-Butylbenzene	29.	ug/l	10.					
sec-Butylbenzene	16.	ug/l	10.					
tert-Butylbenzene	ND	ug/l	10.					
o-Chlorotoluene	ND	ug/l	10.					
p-Chlorotoluene	ND	ug/l	10.					
1,2-Dibromo-3-chloropropane	ND	ug/l	10.					
Hexachlorobutadiene	ND	ug/l	10.					
Isopropylbenzene	12.	ug/l	10.					
p-Isopropyltoluene	11.	ug/l	10.					
Naphthalene	53.	ug/l	10.					
n-Propylbenzene	ND	ug/l	10.					
1,2,3-Trichlorobenzene	ND	ug/l	10.					
1,2,4-Trichlorobenzene	ND	ug/l	10.					
1,3,5-Trimethylbenzene	51.	ug/l	10.					
1,2,4-Trimethylbenzene	170	ug/l	10.					
trans-1,4-Dichloro-2-butene	ND	ug/l	10.					
Ethyl ether	ND	ug/l	250					
SURROGATE RECOVERY								
Toluene-d8	106.	%						
4-Bromofluorobenzene	104.	%						
Dibromofluoromethane	111.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-02
CS2-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Aromatic Volatile Organics				1	8020		19-Jul	SF
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.0					
Ethylbenzene	ND	ug/l	1.0					
Xylenes	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	1.0					
1,3-Dichlorobenzene	ND	ug/l	1.0					
1,4-Dichlorobenzene	ND	ug/l	1.0					
Chlorobenzene	ND	ug/l	1.0					
Methyl tert butyl ether	ND	ug/l	1.0					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-03
CS3-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Aromatic Volatile Organics				1	8020		19-Jul	SF
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.0					
Ethylbenzene	ND	ug/l	1.0					
Xylenes	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	1.0					
1,3-Dichlorobenzene	ND	ug/l	1.0					
1,4-Dichlorobenzene	ND	ug/l	1.0					
Chlorobenzene	ND	ug/l	1.0					
Methyl tert butyl ether	ND	ug/l	1.0					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-04
CS5-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS				1	8260		23-Jul	DB
Methylene chloride	ND	ug/l	5.0					
1,1-Dichloroethane	ND	ug/l	1.5					
Chloroform	ND	ug/l	1.5					
Carbon tetrachloride	ND	ug/l	1.0					
1,2-Dichloropropane	ND	ug/l	3.5					
Dibromochloromethane	ND	ug/l	1.0					
1,1,2-Trichloroethane	ND	ug/l	1.5					
2-Chloroethylvinyl ether	ND	ug/l	10.					
Tetrachloroethene	ND	ug/l	1.5					
Chlorobenzene	ND	ug/l	3.5					
Trichlorofluoromethane	ND	ug/l	5.0					
1,2-Dichloroethane	ND	ug/l	1.5					
1,1,1-Trichloroethane	ND	ug/l	1.0					
Bromodichloromethane	ND	ug/l	1.0					
trans-1,3-Dichloropropene	ND	ug/l	1.5					
cis-1,3-Dichloropropene	ND	ug/l	1.0					
Bromoform	ND	ug/l	1.0					
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.5					
Ethylbenzene	ND	ug/l	1.0					
Chloromethane	ND	ug/l	10.					
Bromomethane	ND	ug/l	2.0					
Vinyl chloride	ND	ug/l	2.0					
Chloroethane	ND	ug/l	2.0					
1,1-Dichloroethene	ND	ug/l	1.0					
trans-1,2-Dichloroethene	ND	ug/l	1.5					
Trichloroethene	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	10.					
1,3-Dichlorobenzene	ND	ug/l	10.					
1,4-Dichlorobenzene	ND	ug/l	10.					
Methyl tert butyl ether	10.	ug/l	10.					
Xylenes	ND	ug/l	1.0					
cis-1,2-Dichloroethene	ND	ug/l	1.0					
Dibromomethane	ND	ug/l	10.					
1,4-Dichlorobutane	ND	ug/l	10.					
Iodomethane	ND	ug/l	10.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1995

Laboratory Sample Number: L9604913-04
CS5-71796-950603

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260		23-Jul	DB
1,2,3-Trichloropropane	ND	ug/l	10.					
Styrene	ND	ug/l	1.0					
Dichlorodifluoromethane	ND	ug/l	10.					
Acetone	ND	ug/l	10.					
Carbon Disulfide	ND	ug/l	10.					
2-Butanone	ND	ug/l	4.5					
Vinyl Acetate	ND	ug/l	10.					
4-Methyl-2-pentanone	ND	ug/l	10.					
2-Hexanone	ND	ug/l	10.					
Ethyl methacrylate	ND	ug/l	10.					
Acrolein	ND	ug/l	25.					
Acrylonitrile	ND	ug/l	10.					
Bromochloromethane	ND	ug/l	1.0					
2,2-Dichloropropane	ND	ug/l	1.0					
1,2-Dibromoethane	ND	ug/l	1.0					
1,3-Dichloropropane	ND	ug/l	1.0					
1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
Bromobenzene	ND	ug/l	1.0					
n-Butylbenzene	ND	ug/l	1.0					
sec-Butylbenzene	ND	ug/l	1.0					
tert-Butylbenzene	ND	ug/l	1.0					
o-Chlorotoluene	ND	ug/l	1.0					
p-Chlorotoluene	ND	ug/l	1.0					
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0					
Hexachlorobutadiene	ND	ug/l	1.0					
Isopropylbenzene	ND	ug/l	1.0					
p-Isopropyltoluene	ND	ug/l	1.0					
Naphthalene	ND	ug/l	1.0					
n-Propylbenzene	ND	ug/l	1.0					
1,2,3-Trichlorobenzene	ND	ug/l	1.0					
1,2,4-Trichlorobenzene	ND	ug/l	1.0					
1,3,5-Trimethylbenzene	ND	ug/l	1.0					
1,2,4-Trimethylbenzene	ND	ug/l	1.0					
trans-1,4-Dichloro-2-butene	ND	ug/l	1.0					
Ethyl ether	ND	ug/l	25.					
SURROGATE RECOVERY								
Toluene-d8	103.	%						
4-Bromofluorobenzene	95.0	%						
Dibromofluoromethane	108.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-05
CS02-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS				1	8260		23-Jul	DB
Methylene chloride	ND	ug/l	50.					
1,1-Dichloroethane	ND	ug/l	15.					
Chloroform	ND	ug/l	15.					
Carbon tetrachloride	ND	ug/l	10.					
1,2-Dichloropropane	ND	ug/l	35.					
Dibromochloromethane	ND	ug/l	10.					
1,1,2-Trichloroethane	ND	ug/l	15.					
2-Chloroethylvinyl ether	ND	ug/l	100					
Tetrachloroethene	ND	ug/l	15.					
Chlorobenzene	ND	ug/l	35.					
Trichlorofluoromethane	ND	ug/l	50.					
1,2-Dichloroethane	ND	ug/l	15.					
1,1,1-Trichloroethane	ND	ug/l	10.					
Bromodichloromethane	ND	ug/l	10.					
trans-1,3-Dichloropropene	ND	ug/l	15.					
cis-1,3-Dichloropropene	ND	ug/l	10.					
Bromoform	ND	ug/l	10.					
1,1,2,2-Tetrachloroethane	ND	ug/l	10.					
Benzene	95.	ug/l	10.					
Toluene	72.	ug/l	15.					
Ethylbenzene	ND	ug/l	10.					
Chloromethane	ND	ug/l	100					
Bromomethane	ND	ug/l	20.					
Vinyl chloride	ND	ug/l	20.					
Chloroethane	ND	ug/l	20.					
1,1-Dichloroethene	ND	ug/l	10.					
trans-1,2-Dichloroethene	ND	ug/l	15.					
Trichloroethene	ND	ug/l	10.					
1,2-Dichlorobenzene	ND	ug/l	100					
1,3-Dichlorobenzene	ND	ug/l	100					
1,4-Dichlorobenzene	ND	ug/l	100					
Methyl tert butyl ether	1500	ug/l	100					
Xylenes	44.	ug/l	10.					
cis-1,2-Dichloroethene	ND	ug/l	10.					
Dibromomethane	ND	ug/l	100					
1,4-Dichlorobutane	ND	ug/l	100					
Iodomethane	ND	ug/l	100					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

Laboratory Sample Number: L9604913-05
CS02-71796-950603

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260		23-Jul	DB
1,2,3-Trichloropropane	ND	ug/l	100					
Styrene	ND	ug/l	10.					
Dichlorodifluoromethane	ND	ug/l	100					
Acetone	ND	ug/l	100					
Carbon Disulfide	ND	ug/l	100					
2-Butanone	ND	ug/l	45.					
Vinyl Acetate	ND	ug/l	100					
4-Methyl-2-pentanone	ND	ug/l	100					
2-Hexanone	ND	ug/l	100					
Ethyl methacrylate	ND	ug/l	100					
Acrolein	ND	ug/l	250					
Acrylonitrile	ND	ug/l	100					
Bromochloromethane	ND	ug/l	10.					
2,2-Dichloropropane	ND	ug/l	10.					
1,2-Dibromoethane	ND	ug/l	10.					
1,3-Dichloropropane	ND	ug/l	10.					
1,1,1,2-Tetrachloroethane	ND	ug/l	10.					
Bromobenzene	ND	ug/l	10.					
n-Butylbenzene	37.	ug/l	10.					
sec-Butylbenzene	16.	ug/l	10.					
tert-Butylbenzene	ND	ug/l	10.					
o-Chlorotoluene	ND	ug/l	10.					
p-Chlorotoluene	ND	ug/l	10.					
1,2-Dibromo-3-chloropropane	ND	ug/l	10.					
Hexachlorobutadiene	ND	ug/l	10.					
Isopropylbenzene	ND	ug/l	10.					
p-Isopropyltoluene	12.	ug/l	10.					
Naphthalene	65.	ug/l	10.					
n-Propylbenzene	ND	ug/l	10.					
1,2,3-Trichlorobenzene	ND	ug/l	10.					
1,2,4-Trichlorobenzene	ND	ug/l	10.					
1,3,5-Trimethylbenzene	57.	ug/l	10.					
1,2,4-Trimethylbenzene	180	ug/l	10.					
trans-1,4-Dichloro-2-butene	ND	ug/l	10.					
Ethyl ether	ND	ug/l	250					
SURROGATE RECOVERY								
Toluene-d8	102.	%						
4-Bromofluorobenzene	98.0	%						
Dibromofluoromethane	112.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604913-06
CS01-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 17-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS				1	8260		22-Jul	DB
Methylene chloride	ND	ug/l	5.0					
1,1-Dichloroethane	ND	ug/l	1.5					
Chloroform	ND	ug/l	1.5					
Carbon tetrachloride	ND	ug/l	1.0					
1,2-Dichloropropane	ND	ug/l	3.5					
Dibromochloromethane	ND	ug/l	1.0					
1,1,2-Trichloroethane	ND	ug/l	1.5					
2-Chloroethylvinyl ether	ND	ug/l	10.					
Tetrachloroethene	ND	ug/l	1.5					
Chlorobenzene	ND	ug/l	3.5					
Trichlorofluoromethane	ND	ug/l	5.0					
1,2-Dichloroethane	ND	ug/l	1.5					
1,1,1-Trichloroethane	ND	ug/l	1.0					
Bromodichloromethane	ND	ug/l	1.0					
trans-1,3-Dichloropropene	ND	ug/l	1.5					
cis-1,3-Dichloropropene	ND	ug/l	1.0					
Bromoform	ND	ug/l	1.0					
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0					
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.5					
Ethylbenzene	ND	ug/l	1.0					
Chloromethane	ND	ug/l	10.					
Bromomethane	ND	ug/l	2.0					
Vinyl chloride	ND	ug/l	2.0					
Chloroethane	ND	ug/l	2.0					
1,1-Dichloroethene	ND	ug/l	1.0					
trans-1,2-Dichloroethene	ND	ug/l	1.5					
Trichloroethene	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	10.					
1,3-Dichlorobenzene	ND	ug/l	10.					
1,4-Dichlorobenzene	ND	ug/l	10.					
Methyl tert butyl ether	ND	ug/l	10.					
Xylenes	ND	ug/l	1.0					
cis-1,2-Dichloroethene	ND	ug/l	1.0					
Dibromomethane	ND	ug/l	10.					
1,4-Dichlorobutane	ND	ug/l	10.					
Iodomethane	ND	ug/l	10.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

Laboratory Sample Number: L9604913-06
CS01-71796-950603

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260		22-Jul	DB
1,2,3-Trichloropropane	ND	ug/l	10.					
Styrene	ND	ug/l	1.0					
Dichlorodifluoromethane	ND	ug/l	10.					
Acetone	ND	ug/l	10.					
Carbon Disulfide	ND	ug/l	10.					
2-Butanone	ND	ug/l	4.5					
Vinyl Acetate	ND	ug/l	10.					
4-Methyl-2-pentanone	ND	ug/l	10.					
2-Hexanone	ND	ug/l	10.					
Ethyl methacrylate	ND	ug/l	10.					
Acrolein	ND	ug/l	25.					
Acrylonitrile	ND	ug/l	10.					
Bromochloromethane	ND	ug/l	1.0					
2,2-Dichloropropane	ND	ug/l	1.0					
1,2-Dibromoethane	ND	ug/l	1.0					
1,3-Dichloropropane	ND	ug/l	1.0					
1,1,1,2-Tetrachloroethane	ND	ug/l	1.0					
Bromobenzene	ND	ug/l	1.0					
n-Butylbenzene	ND	ug/l	1.0					
sec-Butylbenzene	ND	ug/l	1.0					
tert-Butylbenzene	ND	ug/l	1.0					
o-Chlorotoluene	ND	ug/l	1.0					
p-Chlorotoluene	ND	ug/l	1.0					
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0					
Hexachlorobutadiene	ND	ug/l	1.0					
Isopropylbenzene	ND	ug/l	1.0					
p-Isopropyltoluene	ND	ug/l	1.0					
Naphthalene	ND	ug/l	1.0					
n-Propylbenzene	ND	ug/l	1.0					
1,2,3-Trichlorobenzene	ND	ug/l	1.0					
1,2,4-Trichlorobenzene	ND	ug/l	1.0					
1,3,5-Trimethylbenzene	ND	ug/l	1.0					
1,2,4-Trimethylbenzene	ND	ug/l	1.0					
trans-1,4-Dichloro-2-butene	ND	ug/l	1.0					
Ethyl ether	ND	ug/l	25.					
SURROGATE RECOVERY								
Toluene-d8	102.	%						
4-Bromofluorobenzene	98.0	%						
Dibromofluoromethane	107.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9604913

Parameter	MS %	MSD %	RPD
Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 02-03			
Benzene	80	86	7
Toluene	78	86	10
Ethylbenzene	79	89	12
Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 01,04-06			
1,1-Dichloroethene	104	102	2
Trichloroethene	114	109	4
Benzene	110	109	1
Toluene	113	103	9
Chlorobenzene	107	106	1

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA
Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 62807
Sheet 1 of 1

Company Name: ENSA ENVIRONMENTAL, INC.

Project Number: 950603
P.O. Number: 4152

Project Name/Location: CANAL STREET COASTAL

Date Received in Lab: 7/17

Date Due: 7/24

Company Address: P.O. Box 1760
205 MAIN STREET
BRATTLEBORO, VT 05302

Phone Number: 802 254-3677
FAX No.: 254-7630

Project Manager: D. Miller

Alpha Job Number: (Lab use only)
9604913

Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other

MATRIX / SOURCE CODES
MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill
L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water
R = River Stream S = Soil SG = Sludge B = Bottom Sediment
X1 = Other X2 = Other

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix/Source	Method Preserve. (number of containers): Unpres.	Ice	Nitric	Sulfuric	HCl	Other	Solubles - F.F.	Sampling Date	Sampling Time	Analysis Requested
4913.1	CS1-71796-950603	2/V	MW					X			7/17/96	12:39	8260
.2	CS2-71796.950603											12:35	8020
.3	CS3-71796.950603											12:25	8020
.4	CS5-71796-950603											12:30	8260
.5	CS02-71796.950603											12:40	8260 N/C
.6	CS01-71796-950603	V/V										9:00	8260 N/C

Sampler's Signature: [signature] Affiliation: ENSA Date: 7/17/96 Time: 1:45

ADDITIONAL COMMENTS:
TripBlank and Duplicate included (8260)

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	[signature]	[signature]	7/17	230
2	[signature]	[signature]	7/17/96	1650
3				
4				

Form No. QOP/06-03

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: ENSA Environmental, Inc.
Address: 205 Main Street; 3rd Floor
Brattleboro, VT 05301
Attn: Paul Miller
Project Number: 950603
Site: Canal Street Coastal

Laboratory Job Number: L9604946
Invoice Number: 85150
Date Received: 18-JUL-96
Date Reported: 24-JUL-96
Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9604946-01	CS4-71796-950603	Brattleboro, VT

Authorized by:

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

RECEIVED JUL 26 1996

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9604946-01
CS4-71796-950603
Sample Matrix: WATER

Date Collected: 17-JUL-96
Date Received : 18-JUL-96
Date Reported : 24-JUL-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Aromatic Volatile Organics				1	8020		22-Jul	SF
Benzene	ND	ug/l	1.0					
Toluene	ND	ug/l	1.0					
Ethylbenzene	ND	ug/l	1.0					
Xylenes	ND	ug/l	1.0					
1,2-Dichlorobenzene	ND	ug/l	1.0					
1,3-Dichlorobenzene	ND	ug/l	1.0					
1,4-Dichlorobenzene	ND	ug/l	1.0					
Chlorobenzene	ND	ug/l	1.0					
Methyl tert butyl ether	ND	ug/l	1.0					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9604946

Parameter	MS %	MSD %	RPD
Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 01			
Benzene	84	72	15
Toluene	82	70	16
Ethylbenzene	90	79	13

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ALPHA
Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 62808
Sheet 1 of 1

Company Name: ENSA Environmental, Inc.	Project Number: 950603 P.O. Number:	Project Name / Location: CANAL STREET COASTAL BRATTLEBORO, VT	Date Received in Lab: 7/18	Date Due: 7/25
Company Address: P.O. Box 1760, 205 MAIN ST. BRATTLEBORO, VT. 05302	Phone Number: 802 254-3677 FAX No.: 254-7630	Project Manager: P. Miller	Alpha Job Number: (Lab use only) 9604946	

Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other

MATRIX / SOURCE CODES
MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill
L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water
R = River Stream S = Soil SG = Sludge B = Bottom Sediment
X1 = Other____ X2 = Other____

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers): Unpres.	Ice	Nitric	Sulfuric	HCl	Other	Solubles - F.F.	Sampling Date	Sampling Time	Analysis Requested
4946.1	CS4-7I7A6-950603	2/V	MW					X			7/17/96	3:35	8020

Sampler's Signature	Affiliation	Date	Time
[signature]	ENSA	7/17/96	4:00

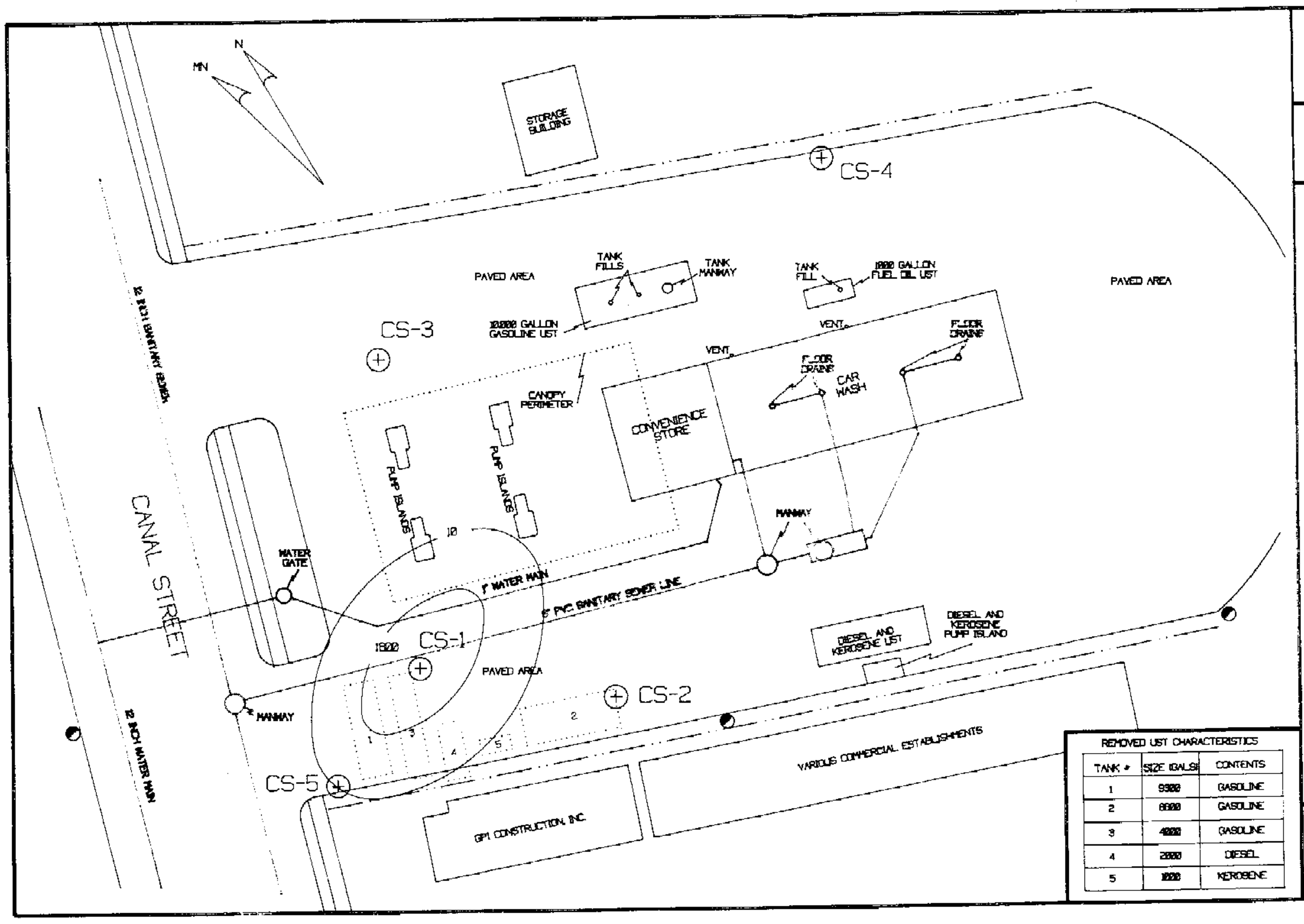
ADDITIONAL COMMENTS: [illegible]

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	[signature]	[signature]	7/18	1:00 P
2	[signature]	[signature]	7/18/96	1700
3				
4				

Form No. QOP/06-03

Appendix E

Isoconcentration Map



TOTAL VOC ISOCONCENTRATION
MAP FOR 07/17/96

COASTAL STATION AND CARWASH
CANAL STREET
BRATTLEBORO, VERMONT

LEGEND

CS-1 MONITORING WELL

10 TOTAL VOC ISOCONCENTRATION CONTOUR LINE OF 10 PPB

UTILITY POLE

OVERHEAD UTILITY LINES

USTs REMOVED SEPTEMBER 26 & 27, 1995

PROPERTY LINE

MONITORING WELL TOTAL VOC CONCENTRATIONS (in PPB)

WELL #	VOC
CS-1	1803
CS-2	ND
CS-3	ND
CS-4	ND
CS-5	10

SCALE 1 : 360

0 30 60 FEET

REMOVED UST CHARACTERISTICS

TANK #	SIZE (GALS)	CONTENTS
1	9300	GASOLINE
2	8600	GASOLINE
3	4000	GASOLINE
4	2000	DIESEL
5	1000	KEROSENE

Drawn By: S. Gaffney 08/02/96
Revised By: N. Justice 08/20/96
\9506031796

PREPARED BY:
ERD ENVIRONMENTAL, INC.
P.O. BOX 1760, 205 MAIN STREET
BRATTLEBORO, VERMONT 05302